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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,512	09/28/2000	Richard Thomas Aiken	5-11	2116

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EXAMINER

NGUYEN, DAVID Q

ART UNIT PAPER NUMBER

2617

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/672,512

Applicant(s)

AIKEN ET AL.

Examiner

David Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-7, 9, 10, 13-16, 18 and 20-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 4-7, 9-10, 13-16 is/are allowed.
- 6) ☒ Claim(s) 18 and 27-30 is/are rejected.
- 7) ☒ Claim(s) 20-26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's arguments with respect to claims 1,4-7,9-10,13-16,18 and 20-30 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roy (EP0926916A2) in view of Fukagawa et al. (US 6188913 B1).

Regarding claim 18, Roy discloses a system comprising a transmitter operable to generate a composite electromagnetic (EM) field to carry a signal to at least two terminals by directing energy in a plurality of directions (see fig. 4,6,and 8); the amount of energy directed in the direction of each of the terminals being a function of the locations and acceptable receive strengths of at least two of the terminals (see fig. 3, mobile terminal 20 receives signal S1+S2+S3; and see par. 0088); wherein an acceptable receive strength for a terminal comprises an electromagnetic field strength at least as large as but not significantly larger than, the EM field strengths needed for that terminal to receive the signal carried by the EM field (see fig. 3, mobile terminal 20 receives signal S1+S2+S3; and see par. 0088). Roy does not disclose wherein the direction is an azimuth direction. However, Fukagawa et al. discloses the direction is an azimuth direction (see col. 22, lines 25-37). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the above teaching of

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Fukagawa et al. to Roy in order to apply to a monopole antenna which does not produce significant radiation in the elevation direction.

Regarding claims 27-28, the transmitter, system and method of Roy in view of Fukagawa et al. also discloses an antenna operable to transmit the signal/energy to the terminals via a phased array antenna (see fig. 3; pars. 32-33; pars.52-54; pars. 61-63; par. 72-76; pars. 116-124 and claim 1 of Roy).

Regarding claims 29-30, the system of Roy in view of Fukagawa et al. also discloses the system is a wireless communication system comprising a base station and terminals being mobile terminals (see fig. 3 and claim 1 of Roy).

Allowable Subject Matter

3. Claims 1,4-7,9-10,13-16 are allowed.

Regarding independent claims 1,7 and 10, applicants amended the claims to overcome the prior arts. Therefore, they are allowed.

Claims 4-6 and 9 depend on claim 1. Therefore, they are allowed.

Claims 13-16 depend on claim 10. Therefore, they are allowed.

4. Claims 20-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 20-25, the closest prior art, Roy (EP0926916A2), Fukagawa et al. (US 6188913 B1) in combination teach a system as claimed in claim 18. The above prior arts of record, however, fail to disclose or render obvious the system comprises a processor operable to determine for each one of the terminals an EM field that would have to be generated for the one

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terminal in order to provide an acceptable receive strength thereat, the determining taking into account the strength, at the location of the one terminal, of EM fields previously determined for others of the terminals; repeat the first determining until the EM fields determined for the at least two of the terminals provide an EM field strength for each of the at least two of the terminals that is substantially equal to its adequate receive strength; and determine the amount of energy to be directed in the direction of each of the terminals, as specified in the claims.

Regarding claim 26, the closest prior art, Roy (EP0926916A2), Fukagawa et al. (US 6188913 B1) in combination teach a system as claimed in claim 18. The above prior arts of record, however, fail to disclose or render obvious the system comprises a processor operable to determine for each one of the terminals an EM field that would have to be generated for the one terminal in order to provide an acceptable receive strength thereat if that one terminal was the only terminal that needed to receive the signal; determine a scaling factor for each EM field such that each EM field, associated with the at least two terminals, scaled by its scaling factor provides an EM field strength at the location of each of these at least two terminals that is substantially equal to its adequate receive strength; scale each EM field, associated with the at least two terminals, by its scaling factor; and determine the amount of energy to be directed in the direction of each of the terminals based on the EM fields thus determined, as specified in the claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Inoue et al. (US 5,181,040) teaches method of measuring the null angle of a monopulse antenna and apparatus therefor.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Q. Nguyen whose telephone number is 571-272-7844.

The examiner can normally be reached on 8:30AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOSEPH H. FEILD can be reached on (571)272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


David Q Nguyen
Examiner
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